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ORIGINAL ARTICLES.

AZOTURIA.

BY DR. ROGERS, OF WESTVILLE.

(Paper read before the Association at Trenton, N. J., Dec. 10th, 1884.)

I purpose to-day to call your attention to Azoturia, the hæmoglobinuria of the Germans. The first notice of this condition in English-speaking literature is found in Haycock's contribution to veterinary pathology—article, Hysteria.

Haycock observed the disease only in mares, and was led to the conclusion that it was an abnormality of the sexual function somewhat analogous to lymphomania. Subsequent writers have shown that it is almost as frequent in horses as in mares.

Symptoms.—These follow usually in a well worn groove. The horse after a number of days of confinement, during which time he has received his usual allowance of highly nutritious food, is taken out to drive; he goes well up the bit, indeed the driver often remarks that he could hardly hold him at times; then, without premonition he falls in the shafts, unable to rise with or without assistance. The animal, retaining all his powers of mind, exhausts himself in fruitless struggles to rise, breaks out into a profuse perspiration, and if urine is discharged during this time it is usually dark in color, coagulating rapidly on cooling. Sometimes this condition persists until death, at others the symptoms ameli-

orate almost as rapidly as they show themselves. There is swelling of the glutei, hard and board-like in appearance. The horse is usually well on the road to recovery or dead within forty-eight hours. The temperature is elevated.

Differential diagnosis—The conditions liable to be confounded with azoturia are apoplexy, simple paralysis due to nervous lesion, spinal and cerebro-spinal meningitis. From apoplexy it may be distinguished by the retention of the sensory functions, the absence of oral breathing and the character of the urine. From simple paralysis, by the fact that in azoturia neither sensation nor motion are totally in abeyance, and again by the characteristic urine. In paralysis caused by obstruction of the iliacs, examination of the aorta post and its quadrifurcation will establish the diagnosis, and abnormal coldness of one or both hind legs will lead the practitioner to make such examination. Again the urine.

From cerebro-spinal meningitis it may be differentiated by the difference in temperature—in cerebro-spinal meningitis below normal or normal, in azoturia always elevated; the swelling of the quarters is absent in cerebro-spinal meningitis, and there is usually difficulty in deglutition in cerebro-spinal meningitis, and often alterations in the higher sensory functions. The urine in cerebro-spinal meningitis may be dark, but is usually of a redder tint than in azoturia; microscopically the diagnosis is potent. We find bloody urine in cerebro-spinal meningitis; urine dark, from the presence of free hæmoglobine or its derivatives, in azoturia,—in spinal meningitis a rare condition. I have only seen four cases in a practice of five years. The symptoms are not usually fulminant. If the animal is in harness there are short periods of great lameness amounting to mobility of progression, followed by the animal falling. There is a straddling squatty gait, the symptoms much aggravated by rectal examination (this also in azoturia), the horse often gets up and down, has chronic spasms of the muscles of the entire body. These are very characteristic, as are also the intervals of ease. There is straddling and paddling of the hind legs as in kidney troubles, no hardness of the quarter and usually little discoloration of the urine. The struggles when down are not all confined to efforts to rise, as in the early stages of azoturia,

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but are made without reason, though not without rhyme, as they are usually rhythmical in character. Later on in azoturia we have, however, similar convulsive efforts.

From blind staggers it may be diagnosed by the difference in situation. Blind staggers, probably anthracoid in character, is only seen in animals pastured on low rich bottomed meadows in summer time; azoturia is usually a disease of winter and of the stabled animal.

Causation.—Azoturia is a disease of the functions of nutrition—a disease of nutritious excess. It is a disease of the well-to-do man's horse.

One of the conditions of health is that the excess of nutrition be removed by the lymphatics. It is conveyed again to the right side of the heart along the thoracic duct, and again poured into the current of the circulation to nourish the tissues. In azoturia there is so great nutritive excess that a large portion of nutritive matter is thrown back, undergoes retrograde decomposition into urea or the analogues of urea, and acts as a poisonous substance on the nerve centers. Centrally, it is probably a failure of the liver to perform its scavenger-like function of burning up the waste proteids. What I wish especially to call your attention to, however, is, that whatever its exciting cause, *azoturia is uræmia*. You have to deal with uræmic poisoning, and whether this is caused, as in this case, by the inaction of a surplus of nutrition on a healthy hard-working organism, or is due to inability of the kidneys to separate retrograde material from the blood, matters little as regards your treatment.

The question may be asked, why is azoturia more common in mares than horses. I think the question admits of ready answer. The female organism is, so to speak, more conservative than the male. Intended by nature to care for and support her parasitic offspring, she lays up with greater readiness than does the male a supply of nutritive matter in excess of her own requirement, and I think this part of my explanation is strengthened by the fact that mares in foal rarely have azoturia.

Secondly, the function of reflex irritation is higher in mares than in horses. Dr. Zuill, of Philadelphia, informs us that he

has found as high as 22 per cent. of urea in the urine of azoturia.

Post-mortem appearances.—Congestion of the meninges. The blood often chocolate colored or somewhat tarry but not abnormally fluid, as in the tarry blood of anthrax, or deficient in red disks, as in leucocythemia. The color is probably due to the admixture of the effete lymph. The liver is usually yellowish, enlarged, friable; kidneys enlarged and congested, sometimes containing pus in their pelves, and the mucous membrane of the bladder inflamed. The condition of the bladder is due to ammoniacal decomposition of the urine in a similar way to that found in old men with enlarged prostate, the constant action and reaction of the mucous thrown out by the irritated viscus on the urine and the irritation of the urine assuring the secretion of the mucous.

I call your attention to a sequel of azoturia, not mentioned, so far as I know, in English works. It is an almost complete atrophy of the crural triceps of the muscle of the fascia lata and in some cases of the glutei of one side. The first case I saw was in Philadelphia. I was called to "*put in the stifle*" of a horse. I found the patella in its place, but imagined that I had a dislocation of the femoro-tibial articulation. I was satisfied that I could place my hand on the tibial spine, and to show you that this great error of diagnosis was not due to my carelessness, two thoroughly qualified Philadelphia veterinarians agreed with me and also agreed that attempts at reduction would be futile, as, if by extension and counter-extension on the limb while the horse was recumbent the dislocation could be reduced, the condition would recur on rising. A big blister was placed on the affected side, and the horse was left to his fate. Imagine my surprise, when I saw the horse last summer as sound as a dollar, without a trace of the old trouble.

Since then I have been consulted in several similar cases; have advised as treatment repeated blisters and the battery, with a long run at grass. This has been successful in each case, but has required many months to bring about the result. The appearance is peculiar. There is apparently a big hole in the affected flank and the femur is almost denuded of musculature anteriorly.

Dr. Huidekoper suggested to me that rupture of the psoæ was

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partly the cause. This may be so in some cases, though none of mine had sufficiently marked abduction of the limb to warrant the diagnosis. The cause may be a tissue change of pyrexia, local embolism interfering with nutrition, or altered nervous action due to pressure. One of my cases was complicated with a most distressing vesico-vaginal catarrh.

Treatment.—Starting from the standpoint that we are dealing with uræmia, the endeavor of the intelligent practitioner will be addressed to ridding the system as quickly as possible of the poisonous matter. I well remember, when a student, seeing these cases brought in, usually to be carried out again heels up. The routine treatment is to purge and bleed. The first part of the treatment I will pass over with the remark that if the patient would be accommodating enough to live until the purgative acted, it would be very good treatment indeed. Usually he dies before the purge acts. If he lives eighteen to twenty-four hours and goes on to recovery, there is the open question as to whether the purge or the *vis medicatrix nature* is to be thanked for it. Bleeding is, I think, to be recommended. It offers a means by which we are enabled to rapidly remove a large amount of urea from the body, and also tends to lessen the action of the remaining poison on the nerve centers. To bleed and purge, however, is to knock down with one hand and set up with the other, as nature, ever tenacious of her balance, will rapidly withdraw from the body fluids enough to make up the mass of blood, and thus hinder the action of a purge, depending as it does for its action in great degree on the maxim "*ubi irritato ibi affluxus.*" When I tell you that I rely almost exclusively on morphia, and my practice has been so successful that last winter about nine cases, most of them bad ones, made good recoveries, it may provoke a smile from those of you who are intensely practical. Let us see. What does morphia do for us? In the first place, it puts a stop to the action of urea on the nerve centers; it quiets the irritable patient; it allows him to stand quietly in a sling, and so avoid knocking the bark off himself in futile struggles. You may be still more incredulous when I tell you that my principal reason for the use of this remedy is to get its eliminator action, and you won't get this from the use

of ten or twenty grains. You are, of course, aware that the narcotic may be pushed much further in the lower animals than in man; their action is directed more to the cord and less to the higher faculties than in man, and to get good results from the morphia treatment of azoturia, you must push it far enough to get its toxic action—you must give ten or fifteen grains every hour until the patient rests quietly and sweats profusely. You may push it so far that it induces automatic convulsive movements of the limbs, simulating trotting or galloping, and you will do no harm by this course. To reassure you, I may state that the same treatment is frequently adopted in the uræmia of mankind with equally good results. I have given a drachm in twelve hours without producing sleep and with excellent results. Do not be afraid of it; use it freely and it will do you good service.

With regard to other treatment, I advise you to get the horse into slings as early as possible. If he entirely loses the control of his hind limbs, it will of course be necessary to lower him, and I may add that a smart stroke of the whip will often make him stand when hanging in them.

The local complication, the "kidney trouble," attracts usually most attention from the laity and the ignorant horse doctor.

Gentlemen, let me most strongly impress upon you the fact that it is not a kidney affection. The kidneys are doing their work—are working up to the very limit of their power. Do not aggravate them by the use of diuretics, especially of those resinous in character. If you must use them, and then when on the road to recovery, use squill and digitalis. If there is retention, shown by examination of the bladder, you may pass the catheter—and here again a word. Do not do it until your horse is comfortably in slings and has had a dose or two of morphia, as I have on several occasions seen the irritation caused by the passage of the catheter cause convulsions and the getting down of the animal. Of course, if you find your patient recumbent with a full bladder, it is well, especially in the horse, to put on the hind hobbles and take away the water, though personally, I prefer to pass the catheter standing.

A hint about catheters. You will find the thick foreign in-

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strument with bluntish point much less liable to lose its way than the thin American one—fit only to pass in the stretched urethra of a bull.

Have you vaginitis or cystitis following, treat them on general principles. Rest the bladder by the use of purgatives, sheath it by the administration of mucilaginous drinks, soothe it by warm rectal injections, and you may, do you deem it necessary, supplement these means by washing out the bladder through the catheter. What food? No food for forty-eight hours, then food poor in nitrogen. Preventive measures: thorough ventilation, good drainage, good grooming, regular exercise, even if the hired man has to be sent out sleighing, and a diminished ration if the quietude is imperative.

You will find the question as to the use of nerve stimulants and blisters discussed in the scanty and disgraceful veterinary literature of this subject. Their use could only arise from a mistaken notion regarding the pathology of the condition, and I would take this opportunity of saying that if you would aid in the advance (now so great) of veterinary science in this country, you must go to comparative medical literature for aid. You are not competent to treat diseases of the lower animals unless you are able to appreciate human pathology. Confine yourselves to the scanty pabulum afforded you by veterinary literature, you will be routine practitioners at best, groping in the dark, not after science but dollars, and although the ability you may discover in finding these last may be a surprise to your neighbors and yourselves, you will never benefit your chosen profession one ha'worth; nay, you will aid to drag it down, to clip its wings and keep it where it has been so long, in the dog-eared volume of "Every Man His Own Horse Doctor," in the chest where the blacksmith keeps his spare nails and oakum, or the livery stable man his winter blankets.

If you can do no more, make a careful record of facts and publish them every once in a while, for those more favored by circumstances to draw inferences from. Report your unsuccessful cases, as well as those redounding to your credit, and so aid in suppressing the worm in the tongue, the wolf in the tail, and the salt mackerel for the loss of end of our generation.

SALICYLIC ACID.

By H. F. JAMES, V.S.

Was called on January 7th to see a brown horse ten years old, said to be very stiff and unfit for work in consequence; had been laid up for two weeks to see if rest would benefit, but grew worse every day. Owner had lately paid \$250 for him, and looked on him in his present state as almost valueless. Temperature, 101°; pulse, 75 and intermittent; gait so tied up that he could only step about six inches, and turned with great difficulty; no swelling of any of the articulations. Fæces slimy and hard; urine scanty, and poor appetite.

Diagnosis.—Sub-acute rheumatism. *Prognosis.*—Cautious.

Treatment.—Blanketed warmly; bandages to legs; nitrate of potash freely in drinking water; scalded oats and bean-mash, and a handful of clean timothy three times a day. From January 7th to the 12th, gave half-ounce doses of salicylic acid three times a day, giving a dose of purgative medicine on the 13th, which operated freely. I now reduced the salicylic acid to half-an-ounce daily until the 26th, when another good purge was given, and his recovery was complete. His appetite returned after three or four days of the treatment, and you could almost see him mend. Tried to obviate stomach derangement as far as possible by careful dieting and the combination of the acid with gentian in bolus.

COMPARATIVE STUDY OF SPORADIC PNEUMONIA AND CONTAGIOUS PLEURO-PNEUMONIA OF CATTLE.

By MESSRS. COULON AND OLIVIER.*

HISTORY.

The existence of sporadic pneumonia of cattle is a question that remains still unsettled, notwithstanding the numerous discussions it has given rise to.

The most different and contradictory opinions have been given.

*Translated from the *Memoires de la Société Centrale de Medecine Veterinaire of Paris.*

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Some believe in its existence and have described its differential characters; others have denied it entirely or have mixed it with the contagious disease which, according to them, is but an accidental variation of it; then others again, without giving settled opinions, pretend that the cases of sporadic disease were not sufficiently evident to conclude as to its presence.

In France, Cruzel, Leblanc and Zundel are of the first opinion; in Germany, Kreutzer, Hildebrand, Spinola and Furstenberg not only accept it, but claim that it is quite common. The last named author has even indicated some characteristic and necropsical symptoms, which distinguish it from the contagious disease.

But other German authors and practitioners have doubted the value of the symptoms given by Furstenberg, and Lydtin especially has said that the lesions mentioned by him were those of pleuro-pneumonia contagiosa.

From recent discussions upon this subject, it is evident that the opinions differ yet essentially. While H. Bouley, Camille Leblanc, Trasbot and Cagny admit that the lungs of ruminants can be the seat of true contagious inflammation; others, Sanson, Nocard and Weber, consider the cases recorded as errors of diagnosis, and say that the pretended cases of sporadic disease were isolated pleuro-pneumonia, pulmonary congestion, vernicular bronchitis, pulmonary echynococi, etc., etc.

This variety of opinion can explain to a certain extent the differences which still exist in some minds in relation to the contagious or non-contagious nature of pleuro-pneumonia, and of the efficiency of preventive inoculation.

Those who do not admit of the sporadic disease, may, indeed, have in some cases where they have unknowingly met it, made inoculations, powerless to grant immunity; and it can be understood that in the presence of these negative results, and of the aptitude of the inoculated to take the contagious disease, their faith in inoculation may have been shaken.

It is also in the presence of some cases of sporadic pneumonia that some practitioners have concluded to the want of the contagious power of pleuro-pneumonia, from that of the propagation in the observed cases.

This state of incertitude becomes to-day still more to be regretted when the contagious character of the disease is recognized by law, and when pecuniary indemnity is paid to owners of animals that are destroyed for the interests of all.

The official veterinarian who in some cases, for reason, wishes to avoid the prescribing of excessive sanitary measures, must be satisfied with the possibility of meeting, in isolated cases, a non-contagious disease, independent of sanitary regulation.

It is important to elucidate this question and establish a positive difference, especially in relation to the lesions between the two forms of disease. This is the object of this paper.

Does sporadic pneumonia exist? Pleuro-pneumonia is a specific, parasitic affection, and from that, out of the ordinary nosological list, and therefore if the existence of the sporadic disease is denied, the lung will be the only organ of the economy which will have no pathological condition: an abnormal fact, which is increased by that other fact that its special function, its great vascularity, its close functional sympathies with the skin, expose it more than others to external influences. This exception would be so contrary to the laws of general pathology that reason refuses to accept it.

Acute, true pneumonia exists in ruminants; a careful observation of many years convinces us of it. That it is less frequent than in horses, we will not deny. Besides that the two species of animals are in different conditions of life, the respiratory apparatus of cattle is considerably less irritable. This irritation will be followed more by bronchitis than by pneumonia; and again, the pleura resists irritation so much that this condition is seldom met with except in pleuro-pneumonia.

But it is not less certain that accidental causes, that give rise to a congested condition of the lungs, do not remain entirely harmless.

These pathogenic causes of true pneumonia act principally in working animals in which the respiratory apparatus, physiologically excited during work, is the natural reservoir towards which the blood accumulates if the circulatory equilibrium is interfered with by a peripheral cooling effect.

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Its frequency in working animals explains the opinion of Cruzel, who claims to have seen it frequently in the South.

The action of these causes is much less in animals kept in permanent stabulation, where absolute rest, uniform and constant temperature protect them from cold. It is no doubt for this reason that practitioners in the North of France have observed only the contagious affection.

But it is also common in animals kept in low and damp lands, when aqueous evaporation gives rise in all seasons to sudden changes of temperature.

We have often seen them, and by *cohabitation* and *inoculation* confirmed our diagnosis of the sporadic nature of the disease we were called to observe.

SYMPTOMS OF SPORADIC PNEUMONIA.

These are the symptoms we have observed. They vary in their form and intensity according to the period of the disease.

When, by exception, the animal is seen at the outset, a slight fever may be observed, characterized by an elevation of temperature between 38.5° and 39° , with a slight acceleration of respiration and circulation, viz., 20 to 25 respiratory motions and a pulse of 45 to 50. The conjunctiva, never red in cattle, is then of a yellowish tint, injected and turning to a more or less saffron red. Appetite still remains, rumination takes place after each meal; there is no tympanitis, no colic; the nose is yet cool, moist and all these symptoms exclude the possibility of digestive troubles.

Soon a short, aborted cough shows itself. It is easily stimulated by pressure of the trachea, and accompanied by a whitish al-buminous but not abundant discharge from the nostrils.

Examination of the chest by percussion indicates a normal resonance, slightly weakened on the lower part, and generally only on one side. Auscultation reveals an exaggerated respiratory murmur, except below, where it is sensibly diminished, and even at times one of the respiratory sounds is absent, ordinarily at the time of expiration.

After a few days these symptoms increase. The cough is yet small, aborted, but more frequent. Respiration is increased to

35°. The temperature goes up to 39° and 39.5°. The pulse hard and bounding, gives from 50 to 60 pulsations to the minute. Percussion shows evident dulness in the lower part of the chest, on one, or at times, both sides; and above this dulness, which occupies about the lower third or quarter of the lung, it is replaced by the resonance. Upon auscultation, the respiratory murmur has disappeared and replaced by a moist crepitant rale, very often mixed with mucous rale. In the upper part the respiratory murmur is strongly increased. Appetite has diminished, but has not entirely disappeared; still animals began to lose flesh.

The disease is well established and slowly progressing in its various stages. The respiration is more and more embarrassed, the pulse small, accelerated and weak, the temperature rises to 40°-45°. The dulness increased upwards, involving the half, the two-thirds, or perhaps the entire extent of the lobe. The dulness as well as the resonance, is not defined by a regularly horizontal, but on the contrary by an irregular line. Auscultation reveals on the dull portion a mixture of moist crepitant and sibilant rales, not always constant and easily displaced.

It is important to observe that the moist crepitant rale is heard in the entire extent of the dulness as long as this exists; it seems as if the engorged condition of the lung is never so complete as to prevent the access of air and prevent the vesicular murmur.

The apparition of the symptoms requires some five or six days, though at times the disease assumes a more acute character, and two or three days only are necessary for their manifestation. In this more active form the pain from difficult breathing becomes more marked. Intermittent at first and heard only when the animal lays down, it soon becomes continued, loud and strong. Tubular breathing has also become manifest from the second or third day, at the large bronchial division.

Sporadic pneumonia may terminate by resolution or asphyxia, the first being announced by the diminution of the febrile symptoms, improvement in the respiratory function, change in the cough, which becomes moist, abundant discharge from the nose, improved appetite, moist crepitant rale in auscultation, diminution

and disappearance of the dulness. This termination is the most frequent, and generally happens in six out of ten cases.

Asphyxia is almost the only fatal termination of the pneumonia of cattle; it kills from a third to a quarter of the patients. It is characterized by the dark red coloration of the mucous membrane, by a small, thready almost imperceptible pulse, contrasting much with the movements of the heart, which are strong and accelerated. Respiration is labored, 70 to the minute. The animal keeps standing up, with legs wide apart, head low and hanging down, the features are contracted, respiration becomes stertorous, much of the breathing is done by the mouth, the dulness of the lung extends to the whole surface of the lobe, and the animal soon dies.

Termination by gangrene and suppuration are also sometimes met. Passage to the chronic condition we have not observed.

DIFFERENTIAL SYMPTOMS.

The symptomatic study of both diseases shows that while they have characters common to both they also possess some peculiar to each.

These are few, and perhaps not very positive when they are considered separately, but they may by a close and attentive examination give positive data by which a positive diagnosis can be made.

The outset of both diseases is announced by a general fever, with its common symptoms, but a well marked difference exists in the mode of elevation of the temperature. It is conceded by all that in pleuro-pneumonia, while all conditions of health may yet remain, the thermometer will still register an elevation of 38°, 40°, or even 41°. In sporadic pneumonia, on the contrary, the rise is progressive, reaching its highest degree only after several days. It is however in this first stage that this can be of any advantage in the differential diagnosis.

In pleuro-pneumonia, in the beginning, digestive troubles are almost always observed. Frequent indigestion, tympanitis, general uneasiness of the patient, intermittent slight colicky pains, constipation followed by diarrhoea. These symptoms ordinarily coincide with the beginning of the pleuretic effusions.

All these are missing in the sporadic form, animals preserving even to an advanced period a certain amount of appetite.

A third differential diagnostic character is the complaint or grunting which shows itself from the beginning in pleuro-pneumonia, and of which it is for many the pathognomical symptom. It is, on the contrary, exceptional in sporadic pneumonia, and when heard there, it is only by intermittence and when the disease assumes a rapid and severe form.

The tubular breathing is also a good symptom; seldom heard in the sporadic affection, it is, on the contrary, frequent in pleuro-pneumonia. In that disease, when the pleura becomes well diseased, the chest shows evidence of an exaggerated sensibility; in the true pneumonia, where the pleura remains intact, percussion is apparently painless.

And again, the cedematous infiltration of the dewlap is a very important differential symptom, as it never exists in the sporadic disease.

To resume: Sporadic pneumonia differs from the contagious affection by—

1st. A gradual increase of the temperature, reaching its highest degree only in the *second stage*.

2d. By the absence of all digestive trouble in the course of the disease, and principally at the first stage.

3d. By the manifest insensibility of the chest.

4th. By the ordinary absence of the grunt and of the tubular breathing, which is never missing in pleuro-pneumonia.

5th and last. By constant absence of the swelling of the dewlap, which generally exists in pleuro-pneumonia.

LESIONS OF SPORADIC PNEUMONIA.

On the opening of the chest there is no effusion in the pleural cavity. There are no adhesions between the pleura, except when little superficial abscesses of the lung have pushed out and irritated the visceral and produced its adhesion to the costal layer. With this exception, the serous remains transparent, smooth and soft, as in the normal state.

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contact of the air, but preserves the same size when removed from its cavity. It is very heavy, and keeps the impression of the finger, except at the topmost part, where it has yet a certain elasticity.

The pleura, when sound, shows through its transparency the coloration of the pulmonary tissue, rutilant red, then strong purple in the superior part of the lung, growing gradually to a red brick color in the middle, to become of a dirty red towards the lower part of the organ.

Upon this coloration is seen a network of various tints, dividing the surface of the lobe in a great number of irregular polyedrical surfaces. This network, formed by the interlobular sections under the pleura, is not seen in the healthy tissue. Of a blackish purple in the superior congested portion, it becomes of a yellowish white in the lower parts of the lungs.

Upon a transversal section of a lobe are found, ordinarily, lesions which indicate that the inflammatory process has started from the lower portion of the organ to spread by degrees towards the superior, in such a way that the density, the coloration, the texture of the parenchym of the organ varies from one region to the other, according to the length of standing of the inflammation.

The parenchym of the upper portion, only hyperhemic, has the same cellular texture and elasticity; it is difficult to cut, floats in water, and towards the superior border is evidently emphysematous.

In the middle of the lung the color is of a darker red, the tissue heavier, easier to tear, less elastic, and exhibits the first degree of hepatization. And then in the lower region the coloration has passed from the brick red to a dirty tint, comparable to that of boiled meat. There the tissue is very heavy, very easily tore, entirely hepatized, its cut is even, and when torn it is evidently granular.

On that section is seen again the subpleural interlobular arborization, dividing the parenchym in as many irregular polyedrical surfaces as there are of lobes. These divisions, emphysematous towards the superior border of the lobe, are not very

distinct from the parenchymatous structure at that point; they become more apparent in the congested portion, where their dark color, due to capillary hemorrhages, differ from the purplish color of pulmonary tissue. There, also, on section, serosity is seen escaping from their meshes.

In the hepatized lower part, the coloring matter of the blood having been resorbed, the divisions appear under the form of whitish regular lines of an even thickness. Of the same density as the pulmonary tissue, they seem part of it, and are distinguishable from it only by their white greyish color, so different from the light red of the lobules. Their division is not followed by running of serosity.

The pulmonary lobules in the upper parts, recently diseased, have a general strong red or purplish hue, evenly spread from one lobule to the other. Closely examined, the hue is at times finely marked with pigmentary spots, blackish, due to capillary hemorrhages.

But here and there, upon the homogeneous color, appears a polyedrical brownish-black spot, resembling the section of a fresh clot of blood. It is a lobule where the congestion has been such that the hemorrhage has destroyed almost entirely the cellular network, which seems to disappear in the bloody clot. This special lesion, very likely, is due to the sectioned structure of the lungs, which renders the lobules independent of each other, especially in case of sanguinous irritation, and prevents the diffusion of the lesion.

In the superior and middle regions are also found, disseminated in the mass of the lobe or on its surface, a certain number of purulent centres of various sizes, containing a thick, creamy, whitish-yellow liquid, analogous to that of warm abscesses, and having for wall a layer of little granulations, purplish in color, like that of the surrounding tissue. These abscesses are not found in the lower region. They have been emptied by resorption or by evacuation of their contents in the bronchial divisions.

In the lower part the lobules are seen, evenly hepatized, smooth on section, with a granulous tear, due to the presence in their infundibula of very fine fibrinous concretions. On that

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section are observed, principally towards the lower border, a great number of yellowish points close together; these are very small purulent centres, enclosed in the hepatized tissue. By pressure, these centres empty themselves of their contents, which proves to be a few drops of yellow, thick, creamy pus. Low down the lobe, these collect together by hypothasis, become more apparent, and form very irregular but larger purulent masses; their substance, partly concreted, allow them to keep the form of their cavities, from which rise the numerous prolongations that they present, and render them comparable to the moulding of the pulmonary acini.

In this region there is another lesion; it is the ultimate transformation of the lobules, already mentioned, in the middle and upper regions as disorganized by hemorrhage; too extensively diseased to return to a healthy condition of life, they are slowly disjointed from the surrounding divisions and form a sequestrum, moving in its alveola, whose tissue, more friable and discolored than that of the hepatized lobes, is in way of softening. Even at times, the blood having entirely dried and being resorbed, there remains but the primitive tissue desagregated by the hemorrhage, under the form of more or less solid masses.

Divided, the bronchia present alterations varying according to the region; in the middle and upper one they are filled with whitish very foaming serosity, the mucous membrane, highly injected, has a color varying from saffron yellow to mahogany.

In the lower part the serosity which they contain is less foaming, has become purulent, half concreted, and the mucous membrane seems to be destroyed.

The bronchial lymphatic glands are hypertrophied, and on section shows extensive injection. Their color is brownish grey.

DIFFERENTIAL LESIONS.

It being granted that pleuro-pneumonia is a specific affection, transmissible, of an exudative nature, becoming inflammatory only secondarily, with an incubative stage and with a very irregular mode of progress:

Again, being admitted that the sporadic disease is a true, irri-

tating, non-transmissible inflammation, whose progress and duration are quite uniform, the thought must suggest itself that two diseases of such different nature must have very different anatomical characters.

The comparative examination of these lesions confirms this induction.

In opening the plenro-pneumonic cadaver, the sternal region and at times the neck, are the seat of swelling. This is sometimes quite large, and the subcutaneous cellular tissue through which it exists is indurated, intimately united to the skin and penetrating by its deep surface into the intermuscular structures, in such a way that a section of them resembles much the marbled aspect of the lung.

In the sporadic disease, no infiltration of the dewlap, or of the neck. The skin, subcutaneous connective and the intermuscular tissue are normal.

In the contagious disease the pleural sac is the seat of strong inflammation, characterized by a great exudation, reddish or yellow, floconous; by thick false membranes, often united together; and again, by the removal of the pleural epithelium, which is then replaced by a rough, irregular, dark red surface covering and concealing the aspect of the lung.

In the sporadic disease, there is no trace of liquid in the pleura, which remains healthy, soft, transparent. If at times sub-pleural pulmonary abscesses exist, the adherence of the two layers is dry and limited to the extent of the abscess.

In the pleuro-pneumonic lung, a transverse section indicates a lobular pneumonia; the lesions are disseminated in the whole organ, which presents a number of little centres which, still healthy, are side by side with others strongly congested or even completely indurated and discolored.

The interlobular divisions, the primitive seat of the disease, are considerably hypertrophied, but irregularly so, and of various manner; while here they are very thick, there their thickness is quite small. There are some gorged with citrine yellow liquid, with fibrinous concretions in their network, while others are much indurated and of fibrous texture.

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This hypertrophy of the divisions make them appear as if they predominated over the pulmonary texture, and on section they form a greyish white surface, over which the lobules show the multicolor aspect.

An incision through the sporadic lung shows, on the contrary, that the disease extends to the entire lobe; the lesions are quite regularly superposed from below upwards, and the various shades of the general coloration are sensibly mingling together; the brown or purplish color of the middle region becomes of a strong and then a pale red, as it goes towards the superior part of the lobe; it becomes of dark brick red coloration as it goes down, and towards the inferior border resembles boiled meat.

The interlobular septa, which we have seen infiltrated in strong yellow, and surrounding the congested centres of pleuro-pneumonia, are, on the contrary, here, in the congested region, infiltrated with a blackish bloody serum; their thickness is small. The infiltration being consecutive to the congestion of the lobules, these prevent their enlargement. In the inferior region, which is hepatized, and where they are compressed by the densified parenchyma, they resemble little regular whitish lines of small thickness.

In pleuro-pneumonia, the disease process being most exclusively confined to the connective tissue, gives rise to an excessive proliferation of its elements, hence a condensing irritation, an induration gradually and continually increasing.

The examination of the lobules made separately, shows, indeed, that their lesions are all due to the compression and crushing to which they are subjected by the septa, and from which rise so many lobular pneumonia. But as the pulmonary structure is not primarily affected, there is no true hepatization, and as the congestion succeeds immediately an induration, complete and definitive, red first, and then whitish.

In ordinary pneumonia, the initial lesion starts, on the contrary, in the mucous membrane, its irritation starts the inflammatory congestion, then the general hepatization of the lobe, traduced by a condition of friability more or less marked, and finally by its purulent transformation—conditions which do not take place in pleuro-pneumonia.

The intensity of this process ordinarily gives rise to the formation of abscesses, quite numerous, circumscribed to the inflamed portion; various in size, containing thick, creamy, yellowish pus, without special envelop, but surrounded by little purplish granulations.

This tendency to purulent transformation, characteristic of true inflammation, is again found in the lower hepatized part. In that region the easily torn lobular tissue exposes a mass of fibrinous concretions, soon transforming themselves into purulent centres, which are observed as little yellowish drops at the surface of the cut structure. Towards the lower border, these centres gather together and form little purulent masses, partly concreted, and of very irregular shapes.

Finally, the only lesions common to both affections are the modifications of the lobules or centres.

In pleuro-pneumonia, the sudden and complete enclosing of some tubular portions by the infiltrated septa may change them into sequestra, and their substance broken down by the peripheral compression and the capillary hemorrhages, slowly becomes soft and appears as a grumulous, greyish liquid, surrounded by a fibrous envelope.

In ordinary pneumonia the cause of this mortification does not come from outwards, but from the inside of the lobule; it is due to the fact that the lobules, made autonomous by their enclosing, are congested in a proportion that varies and is proportionate to the importance of their special vascular system. Those in which the congestion has been hemorrhagic to such an extent as to break the parenchyma, must mortify rapidly; indeed, they are found in the hepatized region, to the state of sequestra separated from their walls by a disjoining fissure, in which the substance remains for some time dry, as momified, then becomes soft and puttaceous in consistency.

We believe that in the presence of those, the only common lesions of the two diseases, when they are found with the others so different, no confusion can be made in their diagnosis.

To resume: Sporadic pneumonia is clearly distinguished from pleuro-pneumonia by a total sum of constant lesions, unequivocal, and amongst which are:

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1st. The absence of infiltration to the dewlap and the neck; infiltration which is constant and abundant in pleuro-pneumonia.

2d. The absence of pleural exudation and of false membranes; lesions always present in the contagious disease.

3d. The generalization of the lesions in the lobules, in which the uniform general tint is so different from the irregularly spread lesions and the much colored aspect of the section of the pleuro-pneumonic lung.

4th. The condition of the interlobular sections whose limited infiltration is not yellowish, but purplish, in the recently inflamed parts, and in which their narrow thickness is always limited; while in pleuro-pneumonia the yellow and very abundant infiltration renders them irregular, bosselated and very thick.

5th. The hepatization of the parenchyma, which becomes more and more tearable, and its gradual transformation, characterized by acute abscesses, and an abundant purulent pigmentation; all of which contrasts so much with the gradual induration, increase of tenacity of the pleuro-pneumonic structure, without any tendency to suppuration.

EDITORIAL.

RINDERPEST IN POUGHKEEPSIE.

"An outbreak of rinderpest in Poughkeepsie having been reported to the State Board of Health, the Assembly has granted an appropriation of \$5,000 to be used in suppressing the disease."—*N. Y. Med. Jour.*, Jan. 14.

It is to be regretted that such a statement should have found endorsement by so important a paper as the *New York Medical Journal*; for, thanks to God, there is not a word of truth in it. Rinderpest is not yet amongst the list of contagious diseases of our domestic animals, and it is to be hoped that our health authorities will see that it never obtains a foothold in this country. We have already enough with what we have, and our live stock is already sufficiently threatened with other diseases, without having added to them the prospect of being decimated by rinderpest.

The diseases to which reference is made are probably either pleuro-pneumonia or tuberculosis—affectations which the sanitary reports indicate as prevailing more or less in various parts of New York and other States.

This error, therefore, can be to a great extent ignored, and veterinarians who have read must have smiled at the news thus brought to them.

But what is not to be ridiculed, is the serious part of the statement, viz.: "The Assembly has granted an appropriation of \$5,000 to be used in suppressing the disease." If this is correct, we never heard of it, and certainly it is a shameful thing that an appropriation to that amount should have been made—for what? to suppress the disease. Would \$5,000 be sufficient to stop the progress of a disease of the nature of rinderpest, which has cost millions to England? And as it is not rinderpest, of what use will that amount of money be to suppress pleuro-pneumonia or tuberculosis, if such are the diseases referred to, when all sound sanitary measures indicated against those affectations are brilliant by their absence?

It is another of those jobs which so commonly find their origin in Albany, for which funds are provided without necessity, and which find their way into the pockets of all but those who are directly interested.

It is not probable that veterinary authorities have been consulted about the true nature of the disease; it is less probable that they will be employed to do the work for which the appropriation was made, or, if they are, we are satisfied that our contemporary will soon have to correct the statement, and with us ask that the \$5,000 be given for some better purpose.

UNITED STATES VETERINARY MEDICAL ASSOCIATION AND MASSACHUSETTS VETERINARY ASSOCIATION.

As will be seen by a notice of Dr. Michener, secretary of the U. S. V. M. Ass., the regular semi-annual meeting of that body will take place as usual on the third Tuesday of March, at 4 P. M., when the regular routine of business, papers, discussions and dinner will take place.

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Of what importance this meeting will be we are unable to say, as, with the exception of the notice that we believe the secretary has taken the liberty to issue on his own responsibility, we are not aware that the officers of the association have given a thought to the meeting, and perhaps to the association, since the last reunion at Cincinnati.

If the meeting of the U. S. V. M. Ass., however, fails to be provided with enough interesting material to justify a trip to Boston, there is ample provision made for a well-rewarded excursion, which is offered to the Eastern members who might make up their minds for the journey, in the invitation which we publish to-day from the Massachusetts Veterinary Association. We hope that this opportunity will not be missed to attend that meeting, which takes place on the evening preceding that of the U. S. V. M. Ass., and that will give us an opportunity to assist in the work done by this young but active association.

SPORADIC PNEUMONIA AND CONTAGIOUS PLEURO-PNEUMONIA.

The correct diagnosis of these two diseases is a question that has no doubt puzzled many veterinarians, and which has in many instances given rise to serious thoughts as to the propriety of applying severe sanitary measures or to leave an animal or a herd free from them.

Even to-day veterinary opinions are divided on the subject, and to try to assist in deciding the question, Messrs. Coulon and Olivier have prepared a long paper on this subject, which was presented to the Societe Centrale de Medecine Veterinaire of Paris, and ordered to be printed in the minutes.

This has appeared to us of sufficient interest and importance to justify its publication in our pages. We have left out of it only the symptomology and the lesions of pleuro-pneumonia proper, as those have been published over and over again, and have satisfied ourselves in translating sporadic pneumonia, with its history as it is given in the original paper, with the conclusions by which, according to the authors, a correct differential diagnosis can be made. We hope that the reproduction will be

carefully noted by our readers, and that those who may have opportunities of testing them in their cattle practice will report to us the results they may obtain in the application of the rules laid down by those veterinarians.

SANITARY STATEMENTS.

Our usual call for these has as yet found but little attention on the part of our confreres, or of our sanitary veterinarians.

As it is important that they should be published, we would once again ask of our readers to forward us a statement, as correct as possible, of the number of cases of contagious diseases that they may have had to treat in the last semester of 1884.

SANITARY CONDITION OF DOMESTIC ANIMALS IN BELGIUM.

By J. W. WEHENKEL.

(From the *Bulletin du Comité Consultatif de Police Sanitaire Veterinaire*.)

During the second trimester of the year 1884, the following contagious diseases have been observed:

1st. **RABIES OR HYDROPHOBIA.**—During the first three months of 1884 that disease was observed only upon three dogs, which had been brought to the clinic of the Brussels schools. During the following months twenty-three cases were observed in the various circumscriptions. Amongst those twenty-one were observed amongst dogs, and two in cattle.

In one of the circumscriptions, several persons and one donkey had been bitten by one of the rabid dogs. Sixty-three which had been bitten were destroyed as suspected of contamination.

2d. **ANTHRAX.**—In this second trimester, forty-nine animals were affected with some of the forms of anthrax, against fifty-eight in the first.

3d. **HOG CHOLERA.**—Over one hundred and fifty-one cases of this disease were reported in five of the Provinces. On account of its prevailing extensively in some districts, the Academy of Medicine of Belgium has reached the following conclusions:

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2d. They should be examined after death, also, and before being skinned.

3d. These inspections ought to be made by a veterinarian.

4th. In doubtful cases the opinion of a veterinarian is essential.

5th. Animals affected with inflammatory diseases, in the first stage, may be given to the public, so long as they have been bled to death.

6th. Animals affected with cachexia, contagious pleuro-pneumonia, tuberculosis, small-pox, measles, trichinosis, rabies, glanders or farcy, typhoid affections, carbuncular diseases, hog cholera, septicæmia, as well as those which have been poisoned, must not be allowed for public use.

7th. Animals that have died from disease must also be excluded.

8th. Animals that die by hemorrhage, without organic lesions, by apoplexy or by accidents, cannot be used for consumption unless an inspection has been made and a certificate given by a veterinarian to that effect.

GLANDERS OR FARCY.—Sixty-two cases are recorded in the second against sixty-eight in the first trimester of the year.

FOOT AND MOUTH DISEASE.—The second trimester shows a great improvement, fourteen cases only being recorded.

CONTAGIOUS PLEURO-PNEUMONIA.—This affection seems to be well under control, the number of animals affected having declined from 318 in the last three months of 1883, to 200 in the first three of 1884, and to 184 in the second trimester.

FOOT ROT in sheep has been quite extensive, nearly 500 cases being recorded.

MANGE IN SHEEP has also been observed in a small number of animals of that specie.

OUR VETERINARY REGISTER.

LIST OF MEMBERS OF THE NEW YORK COUNTY VETERINARY MEDICAL SOCIETY.

R. W. Finlay, V.S.....	New York College Veterinary Surgeons
R. A. Finlay, V.S.....	“ “ “ “ “
P. Peters, V.S.....	“ “ “ “ “

E. H. Heard, M.R.C.V.S.....	Edinburgh
L. V. Plageman, M.R.C.V.S.....	England
W. T. Carmody, M.R.C.V.S.....	"
Jas. A. Hamil, D.V.S.....	Columbia College
A. E. Buzard, M.R.C.V.S.....	England
Ralph Ogle, V.S.....	County Veterinary Medical Society, Feb. 26, 1879
Thomas Ogle, V.S.....	" " " " " "
Jas. Cattanach, V.S.....	" " " " " "
G. P. Delisser, V.S.....	" " " " " "
E. L. Travares, V.S.....	" " " " " "
Ebenezer Waters, V.S.....	" " " " " "
Washington Waters, V.S.....	" " " " " "
Jas. Stokes, V.S.....	" " " " " "
Wm. Holloway, V.S.....	" " " " " "
G. G. Palmer, V.S.....	" " " " " March, 1880
M. Faust, V.S.....	" " " " " Sept, 1881
J. H. Jacobus, V.S.....	" " " " " 1882
W. D. Middletown, V.S.....	" " " " " 1883
Solomon Cohen, V.S.....	" " " " " July, 1883

VETERINARY LEGISLATION.

AN ACT TO INCORPORATE A SOCIETY FOR THE PROMOTION OF VETERINARY SCIENCE AND ART IN THE STATE OF NEW JERSEY.

SEC. 1. *Be it enacted*, That any number of persons, not less than ten, who have been and are now connected with the "Veterinary Medical Association of New Jersey," desirous of promoting the interests of veterinary science and practice in this State, may associate themselves together for that purpose, adopt a corporate name and make a certificate in writing of their organization, with the names and residences of the persons making the certificate, and upon so doing shall be and are the "New Jersey State Veterinary Society."

SEC. 2. *Be it enacted*, That said society shall for its first year have the same officers as are now the officers of the "Veterinary Medical Association of New Jersey," shall adopt such Constitution and By-Laws and such rules and regulations as to its officers, its modes of business, and its conditions of membership as a majority of all members of said society shall approve of.

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SEC. 3. *Be it enacted*, That no person not at present a member of the "Veterinary Medical Association of New Jersey," shall become a member of the "New Jersey State Veterinary Society," unless he shall have received a veterinary or medical diploma or certificate from some incorporated medical or veterinary college or school, or have been examined by a Board of Examiners appointed by this Society, and declared competent for veterinary practice in this State; and said Society shall have full authority to judge of their admission, or of their continuance as members.

SEC. 4. *Be it enacted*, That the Society hereby incorporated shall have power to use a seal of its incorporation, and to own property to an amount not exceeding one thousand dollars, and in the name of its President and Secretary to sue and be sued.

REVIEWS AND NOTICES.

THE ANATOMY OF THE HORSE.—A DISSECTION GUIDE, by J. McFADYEAU, M.B., C.M., B.Sc., &c. (W. R. Jenkins, N. Y.)

In the November number of last year we called the attention of our readers to some advanced sheets that had been shown to us by the publisher of this excellent book.

When one considers the numerous works on anatomy which we already possess in the English language, it would seem at first that another book on that subject would be superfluous, especially after the publication of the superior translation of Chanveau by Fleming, which now has become the classical work by reason of excellence. But how different is the new work of Mr. McFadyeau from all others! It is coming to complete the work above mentioned, and fill up a want which is much felt in the study of equine anatomy. It is truly a dissection guide, and in the eleven chapters which forms the volume of nearly four hundred pages, the old practitioner, the anatomist, as well as the veterinary student, will find much material for interest and study. The book recommends itself by a series of colored plates, representing natural and carefully made dissections, the correctness of which every

one familiar with the subject will appreciate. Other illustrations from Chanveau and Lyh increase the value of the work.

Anatomy of the Horse can be considered as the only book of its kind in the English language, one that no student can be without, and for which the English speaking veterinary profession can justly be thankful to the author.

MANUAL OF EQUINE MEDICINE, by J. B. GRESSWELL, M.R.C.V.S., ETC., and A. GRESSWELL, M.R.C.V.S., ENGLAND, ETC. (W. R. Jenkins, N. Y., Bailliere, Tindall & Co., London.)

This is the title of a nice little book of about 400 pages, divided into twelve chapters, in which the authors have attempted the difficult task of concisely and clearly presenting to the reader the principal facts of equine pathology.

At first it seems that the undertaking is impossible. Messrs. Gresswell have succeeded well, and while many of the diseases are altogether treated too superficially and too *concisely*, the reading of several chapters will well pay those who will carefully study them.

Chapter 3, on vegetable parasites and the germ theory, etc., Chapter 11, which offer to the reader the subject of eutozoa, and Chapter 12, which treats of toxicology, are as complete as a little work of that size can be expected to be.

Manual of Equine Medicine will no doubt prove in the hands of many a valuable addition to a veterinary library.

CONTROLLING SEX IN GENERATION, by S. H. TERRY. (Fowler & Wells Co., N. Y.)

In this little book the author refers to a series of observations and investigations that he has made on the influence that physical law seems to have in controlling sex in the embryo of man and brute. We can recommend its reading, though we as veterinarians, would have been glad to see more on this subject relating to our domestic animals. The four and a half pages that speak of the application of the physical law in our domestic animals, are altogether insufficient to cover the subject, and to present the numerous evidences the author might have gathered for the good of the theory he is trying to introduce.

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REPORT OF THE VETERINARY DEPARTMENT OF THE STATE
AGRICULTURAL COLLEGE, FORT COLLINS, COLO., by GEORGE C. FA-
VILLE, B.S., D.V.M.

A neatly gotten up pamphlet of twenty-two pages, where the author treats of the few diseases that he has had opportunity to observe in Colorado during a summer vacation. Ergotism, splenic fever, loco, mange, occupy the principal part of the report, which is concluded by some very wise remarks on the subject of needed legislation.

The THERAPEUTIC GAZETTE is a new monthly journal, the first number of which appeared on the 15th of January, edited by Professors Horatio C. Wood, M.D., and Robert Meade Smith, of the University of Pennsylvania. This new journal will prove, in the hands of the veterinarian as well as in those of the physician, a good acquisition to therapeutic literature. Subscriptions can be had at 1925 Chestnut Street, Philadelphia. Subscription, \$2.00 a year.

VETERINARY COLLEGES.

ONTARIO VETERINARY COLLEGE.

The students of the Ontario Veterinary College held their eighth annual dinner at the Walker House, Toronto, on Friday evening, January 30th, 1885.

Dr. E. McLean, Pilot Mound, Manitoba, occupied the chair. Among the guests were Prof. A. Smith, V.S., Principal of the College; Dr. Duncan, Dr. Barrett, Dr. Thorburn and F. W. Babington (of the Faculty); Dr. Bryce, Dr. May, Dr. McDonell, Dr. Cowan (Galt.), Dr. Quinn, Rev. C. Campbell, Mr. H. Wade, Secretary of Agricultural Society; Mayor Boswell, Hon. J. Holderness, J. H. Mead, E. P. Roden, J. Keith, and others.

When thorough justice had been done the good things on the table, several speeches were made and a number of toasts proposed. The toasts to the Queen and the President of the United States were received with great enthusiasm. The latter toast was proposed by Mr. J. Q. Taylor (Vice-President) in an appropriate

manner. Then followed the toasts to the Governor General and the Lieutenant Governor, which were received with hearty applause. The toast for the Army and Navy was responded to by Mr. Mead. Mr. Story proposed the Ontario Veterinary College, Dr. Smith replying in an able and suitable manner. Recitations were given, and songs sung by several of the students, after which the gathering separated, all being thoroughly pleased with the evening's proceedings.

SOCIETY MEETINGS.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of the Massachusetts Veterinary Association was held January 7th, and was called to order at 8:15 by the president. Twelve members answered the roll-call, when the minutes of the last meeting were read. Dr. Harrison moved, and it was seconded, that the minutes of the M. V. A. be not reported until after they were accepted. Carried. The minutes of last meeting were then accepted.

Dr. Howard thought the standing of the Columbia Veterinary College was not involved until the truth of the evidence showing that it had made a proposal for a certain sum of money and a short period of attendance to grant a diploma, had been established.

Under the head of new business, it was decided to report on anything new that may come up, such as new methods, new agents, etc.

Dr. Bryden presented the society with a local anæsthæ for mucous membranes, in the form of hydro-chlorate locaræ, 4 per cent. solution, which would produce its effect on the eye in five minutes, and last for fifteen or twenty.

Dr. Osgood moved, and it was seconded, that a committee of original research be formed, and this committee be balloted for. Carried. Drs. Osgood, Howard and Harrison were elected.

Dr. Osgood reported a very interesting case of post-pharyngeal abscess in the horse, which has existed for six weeks, and he wanted to know would it be safe and advisable to open it from the outside or inside.

Dr. Byrne reported a great many cases he had opened from the outside, and Dr. Harrison had opened one from the mouth, but it was decided that local treatment and allowing nature to make the opening, was the most desirable.

Dr. Bunker, as essayist of the evening, reported a few very interesting cases. Dr. Blackwood next essayist.

It was moved that the special investigating committee be instructed to examine into the standing of the different veterinary colleges in existence. Carried. Adjourned.

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at the rooms of the Medical Library Association, 19 Boylston Place, Boston, Mass., on Monday evening, March 16th, at 8 o'clock.

All members of the United States Veterinary Medical Association are cordially invited to attend.

J. F. WINCHESTER, D.V.S., Sec'y.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The regular monthly meeting of this association was held on January 8th, at 1526 Race street, Philadelphia.

Members present—Drs. Rodgers, Miller, Glass, Hoskins, Zuill, Weber and Gaentner.

The minutes of the previous meeting were read and approved.

The committee on publication reported that Dr. Rodgers was willing to make corrections and addition to his paper on "Milk," and hand it over to the association to be disposed of as it might direct.

Dr. Zuill thought that it should be published in book form. Dr. Hoskins suggested the idea of putting it in the hands of a publisher for sale, and argued on the value of the work. The committee were instructed to get estimates and report.

Dr. J. Reinkeeler was proposed for membership.

Dr. Zuill read a paper on "Practical and Chemical Analysis." He took up some of the most potent poisons used in medicine—arsenic, antimony, strychnia and bi-chloride of mercury.

Dr. Glass, as per appointment, gave the history of symptoms and treatment of enzootic typhoid bronchitis. As it had occurred in his practice, the course of the disease ran through about 24 days.

Dr. Rodgers suggested that this association take steps toward conferring with the veterinarians of this country and of Canada on the subject of calling a convention for the purpose of forming a U. S. Veterinary Pharmacopia.

The president appointed the time that would be taken up by citing cases, as the time to discuss the subject at the next meeting.

Dr. Weber was appointed to read a paper at the next meeting.

The regular monthly meeting of the Keystone Veterinary Medical Association was held on February 5th, at 1526 Race street. President Hoskins called the meeting to order at 8:15.

The secretary read the roll. Responses—Hoskins, Glass, Weber, Zuill, Rodgers, Huidekoper, and Gaentner.

The minutes were read, and with slight corrections approved.

The committee on publication reported that after examining Dr. Rodgers' paper they would suggest that he re-write it, as it was hardly in condition to go to the compositor. Dr. Rodgers agreed to do so. On motion, the committee were instructed to present Dr. Rodgers with a box of cigars for the trouble of re-writing. Committee was continued.

The committee on credentials reported favorably on Dr. J. Reinkeeler. Committee discharged.

The treasurer reported \$30.27 in the treasury.

The secretary read communications from Thos. Wilhild and Dr. Schouffler.

Dr. J. Reinkeeler was elected to membership.

Dr. Weber read a paper on "Cerebro-Spinal Meningitis." Among the supposed causes were atmospheric conditions, fatigue, and great exertion, when attended with filth and bad ventilation. A case was cited where foul clothing seemed to be a source of contagion. It had been traced along covered water courses and through malarial districts. Climate does not affect the disease; a morbid poison, like ergot, or the emanations from stagnant water.

Dr. Rodgers exhibited an ovarian cyst, the result of an experiment made by him on a sow, where he removed the connection between the ovary and ovarian tube. The doctor was more than ever convinced that wandering ova were a cause of ovarian cyst.

Dr. Rodgers also exhibited the remains of an amputated uterus that had proved successful, and the animal fattened and slaughtered.

Dr. Zuill exhibited a cestic calculi, taken from a bitch, that nearly filled the pelvic cavity. "Removed by C. M."

The subject of calling a convention to form a U. S. Veterinary Pharmacopia was discussed. It was agreed to have a committee appointed to correspond with all the veterinary centers and learn the views of the profession.

Drs. Huidekoper, Rodgers and Glass were appointed on that committee.

After an hour's discussion on the subject, it was apparent that a standard text-book on veterinary pharmacy was greatly needed by the profession and trade.

CHAS. T. GOENTNER.

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The third regular meeting of this association was held at the American House, Trenton, N. J., on Dec. 10th, 1884.

President Dr. Miller called the meeting to order at 3:15 p. m., and requested the secretary to call the roll.

The following gentlemen were present, viz.: Drs. C. K. Dyer, of Mount Holly; Wm. B. E. Miller, of Camden; — Dixon, of Hoboken; H. W. Rowland, of Jersey City; James C. Dustan, of Morristown; L. R. Sattler, of Newark; J. Gerth, Jr., of Newark; T. B. Rogers, of Westville; Wm. G. Schmidt, of Newark; and W. P. Humphreys, of Elizabeth.

A majority of the Board of Censors being absent, Dr. Gerth moved that the rules be suspended and Drs. Hawk, Carmody, Mook and Cosgrove be admitted as members. This was unanimously concurred in.

The secretary and treasurer had no report to make.

The committee to draft new laws in relation to contagious animal diseases reported that the State Board of Health was taking steps to have new laws enacted that will be more thorough and effective than those now in force.

Dr. Dyer moved that the report be received and the committee discharged. Seconded and carried.

Drs. W. H. Lowe, of Paterson, Wm. B. Smith, of Trenton, and R. Leis, of Newark, were proposed for membership. Upon motion, the rules were suspended and the gentlemen admitted.

The name of Dr. Lauch, of Newark, was referred to the Board of Censors. Drs. Glass and Gaentner, both of Philadelphia, Pa., were present as visitors, and were introduced by the president, Dr. Miller.

Dr. Miller requested Dr. Glass to address the association. Dr. Glass cheerfully complied. In addressing the association he drew special attention to the use and action of eserine in colic.

The chairman of committee to consider the resolution offered by Dr. J. C. Corlies at the first regular meeting, reported in favor of some sections of the resolution, and unfavorably of most sections.

After an animated discussion, Dr. Dixon moved that the report be received, and that all consideration in relation to the resolution as offered by Dr. Corlies be dismissed. Carried unanimously.

The essayist, Dr. Rogers, read a very able article on "Azoturia," and highly recommended the use of large doses of morphine in treatment.

Upon recommendation of Drs. Rogers, Dixon and Rowland, Prof. A. Liautard, Dean of the American Veterinary College, N. Y.; Dr. Ezra M. Hunt, secretary of the State Board of Health, and Dr. F. S. Billings, editor of *Journal of Comparative Medicine and Surgery*, were unanimously elected honorary members of the association, as a mark of respect for their devoted interest in the veterinary profession.

The essayists appointed by the president for the next meeting are Drs. Rowland, Dixon and Hawk.

The association decided on holding their next regular meeting in Newark.

Dr. Dixon moved that delegates be elected to attend the next meeting of the U. S. Veterinary Medical Association. Carried.

Drs. Hawk, Dyer and Sattler were nominated and elected by acclamation.

Dr. Dyer moved that the president appoint a delegate to attend the next meeting of the Pennsylvania State Veterinary Society, which will be held on March 4th, 1885, at the corner of Thirteenth and Arch streets, Philadelphia.

The president appointed Dr. Dyer.

Dr. Glass invited all members to attend the meeting of Pennsylvania State Society. The invitation was accepted.

After tendering the essayist and the visitors a vote of thanks, the meeting adjourned.

FIRST SPECIAL MEETING.

The first special meeting of this association, called by order of the president, for the purpose of discussing the advisability of incorporating by an enactment of the Legislature now in session, was held at the office of Dr. J. W. Hawk, on Tuesday, February 10th, 1885.

The secretary, in absence of the president, called the meeting to order at 4 o'clock P. M.

At the request of the association, the vice-president, Dr. Dixon, acted as chairman.

The reading of the minutes of the third regular meeting were dispensed with, and the secretary was requested to call the roll.

The following gentlemen answered the call, viz.: Drs. Arrowsmith, Sattler,

Dyer, Dixon, Dusten, Haydon, Leatherman, Gerth, Jr., Rowland, Hawk, Mook and Lowe.

The secretary then read a letter from Dr. J. C. Corlies, in which he stated his reasons for non-attendance. The letter was laid over for discussion at the next regular meeting.

A bill to incorporate the association under the name of the "New Jersey State Veterinary Society," by an enactment of the Legislature, was then read, and after considering each section separately, it was adopted as a whole, and a resolution offered and passed that the association incorporate as provided for in said bill.

It was moved and seconded that the chair appoint a committee of three, who, in connection with the president and secretary, take charge of and engineer the bill through the Assembly. The chair appointed Drs. Hawk, Leatherman and Dyer to act on said committee.

It was moved that the committee be empowered to expend a sum of money not to exceed \$25. Seconded and carried.

A motion was made by Dr. Dixon that the secretary notify each individual member of the association that a bill to incorporate the association is going to be presented to the Legislature, and urge them to use their influence in securing its passage.

The meeting then adjourned.

J. GERTH, JR., D.V.S., Secretary.

VETERINARY HONORS.

F. S. Billings, V.M., who has just returned from Europe, has been invited to take charge of the pathological department and laboratory recently established by the N. Y. Polyclinic. Dr. B. has been intimately connected with Virchow for a number of years, and is undoubtedly well fitted for the position to which he is called. We can look for original investigations and interesting publications from him. He is the first veterinarian in this country that has ever been directly connected with a school of human medicine.

COMPLIMENTARY TRIBUTE TO A VETERINARIAN.—Dr. T. W. Spranklin, D.V.S., of Baltimore, has been presented a handsome gold medal by the dairymen of Baltimore County for his professional attention and care in introducing inoculation as a preventive measure against contagious pleuro-pneumonia.

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CORRESPONDENCE.

INDIGESTION IN THE HORSE.

Editor American Veterinary Review:

I have been much interested in reading the leading article in your February number, by Dr. Byrne, on Indigestion, and as I have just had two peculiar cases, I will describe them, as I think they will be of some interest.

February 9th last I was called to see a bay gelding that had the following history: He had been fed early in the morning and driven about forty miles over a rough mountain road, stopping only for a few moments' lunch at noon. About an hour previous to my call he had become suddenly sluggish, almost refused to go and began to bloat rapidly. When I saw him, I found that the horse was "panting," pulse imperceptible, extremities very cold, expression haggard and sensibility all but gone. I immediately inserted the trocar before trying anything else, and the animal began to breathe easier at once. This was followed by a laxative ball, aloes 3iv and an absence of food until the next day. Followed with easily digested food for a couple of days, and the animal was at work again in four days.

Case No. 2.—A small roan saddle mare about 18 years old. Always had been well, but from eating a small quantity of alfalfa hay, suddenly showed symptoms of severe colic.

Feb. 11th. I never have seen symptoms develop with such rapidity as they did in this case. All of the stimulants and free use of the injection pump failed to produce the least effect, and so I again resorted to the trocar. Relief was only temporary, and I had to again use the instrument. The first punctures that I made were rather high up, and I found it necessary to punctuate the colon through the inferior abdominal wall, as well as the cœcum. Before I could get the bowels to empty themselves of the undigested hay, I had to insert the trocar six different times, and finally I left the canula in the intestine for about an hour at a time. A slight peritonitis followed which quickly passed, and the animal left the infirmary to-day kicking up her heels and

playing. I have used very often this same sort of treatment. I do not apprehend much if any danger from its use, if used in time.

Animals do not die from the use of the trocar, but rather from the effect of the distended condition and the shock upon the system. In twenty cases that I have punctured, I have only lost two, and I am satisfied that in those cases I put off puncturing until too late. I am certain that a small long trocar with long tapering point and cutting edges *kept scrupulously clean*, and used in time, is more agreeable to the horse and more effectual than the drenching horn and nauseating medicines.

I am of the opinion that many cases are lost from death caused by simple distention. As often, perhaps, as from inflammation. Certainly, simple distention may be relieved by the trocar, and I think that succeeding inflammation is not nearly so apt to follow.

GEO. C. FAVILLE, D.V.M.

FT. COLLINS, COLO., Feb. 20th, 1885.

INOCULATION IN CONTAGIOUS PLEURO-PNEUMONIA.

Editor American Veterinary Review :

In the preliminary report made by members of the Bureau of Animal Industry to the Commissioner of Agriculture, in their investigations and experiments, we are informed that "The experiments relating to the contagiousness of pleuro-pneumonia as found in the stables inspected, which are conducted at the station on Barren Island, have developed many important facts," and goes further to show, or at least lead any one to suppose, that the developments are simply as to the *contagiousness* of the disease. I think that part of the question has been long settled by many costly accidental experiments, and any further experiments as to the contagion would, to veterinarians at least, appear to be time and money thrown away. I should like to see the Bureau turn its attention to something new in the way of experiments; say, preventive measures. Inoculation is one well worthy their attention. Though I am free to admit that I have little or no faith in the protective value of inoculation, and the more I look into the question, the more skeptical I get, yet am open to conviction,

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and so would like to see that measure tested in many ways, some of which might be: the result of inoculation of animals already ejected; whether or not it hastens the result, as shown by Pasteur in his experiments in inoculation with anthrax. (If it should, then it would not do to inoculate cattle that had been exposed to the infection); if any pulmonary complications follow inoculation—it has been so reported—and what they are; will the inoculation of perfectly free cattle promote the natural infection; and last, but not least, does an inoculated animal have immunity against *any* form of the disease.

Yours very truly,

BROOKLYN, Jan. 28th.

W. H. PENDRY, D.V.S.

A COMMENDABLE SELECTION.

Editor of AMERICAN VETERINARY REVIEW:

At a recent meeting of the faculty of the Veterinary Department of the University of Pennsylvania, Mr. W. L. Zuill, M.D., D.V.S., of Philadelphia, was selected to fill the chair of surgery in the school. The appointment of Dr. Zuill to this high honor has been well received by the fraternity in Pennsylvania. Graduating at the American Veterinary College in the year 1880, and at the Medical Department of the University in 1884 with high honors, this distinction comes at an early year of his life, but his successful career as a student in both of the former schools, and his marked success as a practitioner in Philadelphia, have all made this selection one due to merit and worth. It is alike a high tribute to the high standard of teaching of the American Veterinary College and was for her an additional honor, as an educator in the ranks of the profession, to the long train now following her representatives. In order to add the value of the methods of surgery of other schools, Dr. Zuill will spend a number of months in several of the leading veterinary schools of Europe.

W. HORACE HOSKINS,
254 S. 15th St., Philadelphia.

CORRECTION.

At the request of Dr. Peabody, we wish to correct page 493 of our last REVIEW, twelfth line from the top, and make it read, "received *ustilago madies* or *corn-ergot* in 3 ii."

NOTICE.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of the association will take place on the third Tuesday in March, in Boston, at Young's Hotel, 10 o'clock A.M.

C. B. MICHENER, *Secretary*.

EXCHANGES, ETC., RECEIVED.

We are pleased to acknowledge the receipt of our usual medical, veterinary and scientific exchanges, at home and abroad, and also of the pamphlets directed to our editorial rooms.

Communications have been received from many of our friends, viz.: A. A. Holcombe, C. B. Michener, C. H. Peabody, J. Gerth, Jr., D. Dixon, J. Rogers, H. F. James, R. Finlay, J. F. Winchester, C. T. Goentner, Geo. C. Faville, W. H. Pendry, W. H. Hoskins, J. C. Meyer, Jr., G. B. Houston.

Per. B. J. P.

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